EDW USER POLICIES AND GUIDELINES

DEPARTMENT OF TRANSPORTATION

DELPHI Program

Author:	workbooks Team
Creation Date:	May 5, 2005
Last Updated:	Tuesday, April 05, 2005
Control Number:	N/A
Version:	1.4

Document Control

Change Record

Date	Author	Version	Change Reference
5/5/2005	Larry Zwahlen	01	Original Version
5/5/2005	Tammie Brannon	02	

Reviewers

Name	Position

Distribution

Copy No.	Name	Location
1	Library Master	Project Library
2		Project Manager
3		
4		

DELPHI Program
160027_EDW Policy and Procedures v1.doc(160027_edw policy and procedures v1.doc.doc)

Error! No text of specified style in document.   ii

Contents

Introduction

Purpose

DELPHI has implemented an Oracle Enterprise Data Warehouse (EDW). This document is to set the standards, policies and procedures for the use of this EDW, creation of new data sets and on the creation of shared workbooks.

Scope

This document describes the policies and guidelines for the design and use of the DELPHI EDW for the end users. There will be two level of users; "EDW – BIS Viewer" level which will be able to run pre built workbooks and "EDW – BIS Plus" super users which will be able to create workbooks and provide knowledge sharing on new structures for the EDW.

Basic Business Need

DELPHI has identified the need for a collection of data. This data collection is to provide an avenue for management and end users to manage their business with performance metrics. The DELPHI EDW will allow the creation of data sets to be utilized in the creation of workbooks that can help answer these questions using statistical analysis of the data.

Design and Development Goals

Super Users

DELPHI Super Users, with the responsibility of EDW – BIS Plus, will play an integral role in DELPHI EDW's future development. The DELPHI Super User will become an extension of the DELPHI development staff by providing fundamental design concepts. They will play an important role in deciding how future source data will be mapped into the data warehouse and create global workbooks to be shared within the DELPHI data warehouse community. These users must be experienced with discoverer plus, of DELPHI, and of data warehousing concepts.

Global Workbooks thoroughly tested

Unit and link test plans are prepared during the creation phase of a workbook and documented in the MD65 document. This allows the unit testing to validate all required functionality before being placed into a global status. Users are required to retest the workbook after installation before the workbooks are considered complete.

Workbooks are Non-Intrusive

Workbooks provide additional functionality to extend the base product and do not change the Oracle Applications core functionality. The standard functions built into the software remain unchanged. This policy preserves the DOT's support agreement with Oracle Support and provides the highest level of maintainability.

When a standard workbook is modified, it will be copied to the custom application directory, renamed, modified, and then registered under the custom application. The menu must then be modified to call the new version of the workbook. The original program remains in its original location.

Designs follow Oracle documentation standards

Design documents for workbooks Application follow the style conventions of the standard Oracle documentation. Functional design documents include workbook descriptions. These are presented in the same format as the application reference manuals and become the standard user documentation for the workbook.

The Required Documentation for all workbooks is as follows:

- Module Functional Design Document (MD.065) – this documentation is a more in-depth look at the functional need providing workbook layout desired, column structure, parameters desired, application information, location of data, test plan information and expected results. A template standard will be utilized.

- Functional Testing Package – this package will include a signature from the functional tester and all pertinent information needed to verify this workbook has been functional tested and data is accurate.

- Workbook Library Documentation – the end users utilize this document. These documents provide a brief written statement of what the Workbook content is the purpose, the capabilities and what applications are affected. These documents will follow the DELPHI Tutor Methodology. An example document has been provided as a separate attachment.

Code adheres to Oracle Applications development standards

Coding for Workbooks to the Oracle Applications follow the standards outlined in *The Application Object Library Reference Manual* with some qualified exceptions. Standards that should always be followed are:

- Application Object Library development standards.
- Form and Workbook cosmetic standards.
- Comment standards.

Exceptions include:

- Porting requirements for platforms that DOT will never port to, may be waived if it saves significant development effort.
- Internal library routines not supported by Oracle should not be used.
- Regression test scripts may not be necessary.
- Support of multiple languages may not be necessary.

Sign-off review for Global Workbooks

Global Workbooks will be functionally tested for use with multiple OAs' and then Workbook is shared and tested by users. This is the final acknowledgment that the Workbook has no known bugs.

Limitations on Workbooks / Queries / Data

A limitation on the amount of data returned from any workbook will be monitored. Large queries compromising the integrity of the EDW system will be terminated by the Delphi EDW staff. Continual issues with large queries could result in the termination of the EDW user access.

Data integrity and security

All data retrieved from the DELPHI EDW is Government owned data subject to all Information System Security rules and regulations. It is not to be shared or displayed in any manner inconsistent with Government regulations.

Definitions

Additive (facts)
Measurements in a fact table that can be added across all dimensions.

Customization
Defined as a custom developed module that provides additional functionality to an Oracle Application. Workbooks include new modules that provide features not provided by standard applications and also modifications and extensions to existing workbooks.

Data Warehouse
A copy of transaction data specifically structured to support query and analysis rather than just being a mirror of a transactional database. The use of dimensional/fact tables allows data to be organized in way so that users may query and summarize factual data in a very efficient manner. A good example is: How much as been paid to a specific vendor over the last 3 fiscal years?

Designer

The person who interprets the user requirements and designs a solution. Designers may be functional, technical, or both.

Dimension

An independent entity, such as a vendor, in the model of an organization that serves as an entry point, or as a mechanism for slicing the additive measures of the organization**.**

Dimension Model

The top-down design methodology that for each business process enumerates relevant dimensions and facts. Delphi EDW uses this model.

Dimension Table

A database table in a star join schema with a single primary key (index), such as a table of all unique vendors**.**

Enhancement

New features or changes to existing applications that will become part of the base product in future releases and will be supported by Oracle. Enhancements are designed and implemented by the Application Development organization of Oracle.

Extension

A customization that adds to the functionality of an existing application or modules through additional forms, form zones, reports, workbooks, or a supplemental process.

Fact

A measurement, typically numeric and additive such as dollar amount, that is stored in a fact table.

Fact Table

The central database table in a star join schema, characterized by a composite key, each of whose elements is a foreign key drawn from a dimension table.

Modification

A change to an existing application module that changes core functionality. Modifications are discouraged.

Module

A single form, report, workbook, user exit, stored procedure, database trigger, or concurrent program. A single customization may include multiple modules.

Project Manager

The person who is responsible for the project schedule and cost management. The project manager makes the decision to build workbooks based on cost/benefit analysis.

Star Join Schema

A specific organization of a database in which a fact table with a composite key is joined to a number of single-level dimension tables.

User

A person who will use the customization (in this case workbook, Business Area, Folder). Users also establish the requirements that a customization must satisfy.

Additional Documents

The following Oracle documents provide additional information:

- Oracle E-Business Intelligence Embedded Data Warehouse User Guide, Release 4.1
- Oracle E-Business Intelligence Embedded Data Warehouse Logical Data Models, Release 3.1.1
- Oracle Applications Concepts

The following Department of Transportation DELPHI Program documents provides additional information about workbook application development and documentation standards:

- *Customization Design Standards*
- MD065 Functional Design Template

Workbook Development Standards

Every workbook designed can help or hinder the productivity of the DOT users. A well-constructed workbook has a clear purpose, organizes information strategically, and displays it in an attractive format. Each workbook will provide all the information the DOT users need for a specific task.

Good workbook development standards do not necessarily ensure workbooks are accurate or thorough. They do improve a workbook's maintenance life cycle. The following development standards also ensure consistency among workbooks.

All DELPHI workbooks are developed using Oracle Discoverer 10g and are stored in the database.

Minimum Software Requirements

Oracle Discoverer 10g
Oracle Financials Login
Internet Explorer version 5.5 or higher or Netscape 4.7 or higher

Recommended Hardware Requirements:

Windows XP, Windows 2000
1gb RAM

Minimum Super User Requirements

DELPHI Expertise
Discoverer Expertise
Data Warehousing Knowledge (recommend additional training if not an expert)

Workbook Cosmetic Standards

Good workbook cosmetic standards improve a workbook's legibility and ease of use. Following cosmetic standards also ensures consistency among workbooks that helps a user understand a particular workbook.

General Workbook Guidelines

Show only fields related to the Workbook's business purpose

Make the workbook easier to read and use by eliminating unnecessary fields that do not relate to the workbook's business purpose. This will also improve on the query performance of the workbook.

Minimize the number of fields in a Workbook

The more fields a workbook displays, the more difficult it is to read and use effectively for any one Purpose. Again, this will improve on the query performance of the workbook.

Try to design a separate workbook to satisfy each business purpose

Try not to make a single workbook serve many business purposes.

Add comments and descriptions

Comments are used to provide information that will assist in understanding the purpose of the workbook. Provide comments and or descriptions for title of workbook, parameters and fields.

Boilerplate and Text Standards

Use mixed case throughout a workbook

Use mixed case wherever possible. Use all capitals only for generally accepted industry acronyms (such as LIFO). Mixed cases workbooks are easier to read than all capitals and are consistent with the standard Oracle Applications workbooks, Reports and forms.

Avoid abbreviations

Avoid abbreviations when possible. They are hard to read and understand. It is important to remain consistent whenever using abbreviations.

Use consistent field labels across Workbooks

Ensure that a particular field has an identical label on each workbook in which it appears. When the same label is used in each workbook that shows a field, the users can easily decide whether two workbooks show comparable or similar pieces of information. Use matching terminology or field labels between workbooks and forms. This helps the users understand whether the data they enter in a form is used in a particular workbook and where to enter that data.

Left align alphanumeric values

Left aligns the values in an alphanumeric column.

Right align numeric values

Always right align numeric values.

Use consistent field widths across Workbooks

When a field appears on several workbooks, ensure it has the same width on each such form.

Many forms contain scrollable fields that display fewer characters than they actually hold. In these cases, make the workbook match the actual field width of a form rather than the display width.

Express ranges using From: To: format in the description

When showing a starting point and an ending point, for example a start date and an end date, use the following format with stacked left labels:

```
Range Name     From:
               To:
```

Example:

```
Vendor Numbers From: 0
To: 99999
```

When not labeling the form and the fields, such as in a workbook subtitle, use the following format:

```
Vendor Numbers from 0 to 99999
```

Workbook Title Standards

Title a workbook based upon its primary purpose

Briefly state a workbook's primary purpose in its title. Avoid unnecessary words.

Right: Prepayments Status workbook

Wrong: The Status of Customer Prepayments workbook

Include the AS of Date:

On the subtitle have an "as of date" line to show when the workbook was ran.

As of: 05-APR-2005

Page of Pages

On a subtitle line show what page number and the total number of pages in the workbook.

Page 1 of 40

Cover Page Standards

Optionally include a cover page to show workbook parameters and workbook information

If the workbook supports many different options and or worksheets, include a cover page that lists all parameters, describes the different sheets and fields.

Label Standards

The following standards apply to column headings and other boilerplate field labels:

- Left align alphanumeric top labels; right align numeric top labels.
- Label a field using its workbook parameter prompts.
- Use a minimum of 20 characters for wrapped text columns.

Page Header Standards

The following standards apply to the repeated headings at the top of each page:

- Identify an organization or product source in the page header.
- Show a time span, and scaling factor in a workbook subtitle.
- Label a confidential workbook below the title and subtitle.

- Show other important workbook parameters in the page header.

Parameter Standards

The following standards apply to information specific to a parameter:

- Display parameters in a header line.
- Always create meaningful names, prompt messages, and descriptions.
- Do not Enter a default value, unless it is useful to all users.
- Use parameters to reduce the number of lines returned.

Column Ordering Standards

The following standards apply to the order in which columns are arranged on a workbook:

- Order columns logically and consistently across workbooks.
- Put user key columns on the left side of a workbook.
- Put most important columns at the far left or far right of a workbook.

Formatting Number Standards

The following standards apply to numeric values:

- Use leading zeros for values less than one (1).
- Align decimal numbers to the right.
- Print negative numbers using a preceding floating minus sign.
- Print all '*' in the event of a field overflow.

Total Standards

The following standards apply to computed totals:

- Use a descriptive left label to preface a column total.
- Distinguish between a subtotal left label and a total left label.
- Indicate and distinguish between a subtotal and a total.

Object Naming Standards

The following standards apply for all **custom objects (views, tables, procedures, etc.)** and files that contain text for object:

XXDP_xx_yy_nnnnn_ZZZZZZZZZZ.

Where XXDP = DELPHI System
xx = OMB Code
yy = Application Short code
nnnnn = sequence number
zzzzzzzzzzzzzzz = description (14 characters maximum).

With the following extensions;

Procedure = .prc
Package = .pkg
Function = .fcn
Form = .fmb
App/Web Report = .rdf
Trigger = .trg
SQL Script = .sql
Unix Shell Script = .prog
C = .c
Pro C = .pc
SQL Loader, Control File = .ctl
Data Definition Language = .ddl
Workflow = .wft
Java Script = .js
Hyper Text = .htm
Workbook = .dis

Custom object naming examples;

XXDP_12_GL_00001_report_view.sql
XXDP_00_AR_00001_rec_report.rdf

Table 1. Application Short Codes:

Application Code	Description
AD	Applications DBA
ADM	System Administration
AK	Oracle Common Modules (AK)
ALR	Oracle Alert
AN	Oracle Sales Analysis
AP	Oracle Public Sector Payables

Application Code	Description
AR	Oracle Public Sector Receivables
AS	Oracle Sales and Marketing
AU	Oracle Application Utilities
AX	Global Accounting Engine
AZ	Application Implementation
BEN	Oracle Advanced Benefits
BOM	Oracle Bills of Material
CE	Oracle Cash Management
CHV	Oracle Supplier Scheduling
CN	Oracle Sales Compensation
CRP	Oracle Capacity
CS	Oracle Service
CST	Oracle Cost Management
CUST	Custom Application Registration
CZ	Oracle Configurator
DT	Oracle DateTrack
EC	Oracle EDI Gateway
ENG	Oracle Engineering
FF	Oracle FastFormula
FLM	
FND	Oracle Application Object Library
FV	Federal Financial Applications
GHR	Oracle Government HR
GL	Oracle Public Sector General Ledger
HXT	Oracle Time Management
ICX	Oracle Self-Service Web Applications
INV	Oracle Inventory
JA	Oracle Asia/Pacific Localizations
JE	Oracle European Localizations
JG	Oracle Shared Localizations
JL	Oracle Latin America Localizations
MFG	Oracle Manufacturing
MRP	Oracle Master Scheduling/MRP
MSC	Oracle Supply Chain Planning
ODQ	Oracle Data Query
OE	Oracle Order Entry
OFA	Oracle Assets
OTA	Oracle Training Administration
PA	Oracle Project Accounting
PAU	Oracle Public Sector Application Utilities
PAY	Oracle Payroll
PER	Oracle Human Resources
PJM	Oracle Project Manufacturing
PO	Oracle Public Sector Purchasing
PSA	Oracle Public Sector Applications

Application Code	Description
QA	Oracle Quality
RG	Application Workbook Generator
RHX	Oracle Advanced Planning Foundation
RLA	Oracle Release Management
SSP	Oracle SSP
VEH	Oracle Automotive
WH	Oracle Applications Data Warehouse
WIP	Oracle Work in Process
XXOI	Oracle Obligation Interface

Version Control Standards

The following procedures apply to workbooks.

General Guidelines

New workbooks are stored on the database. If a workbook is modified by other than its owner it will have to be renamed and re-shared, if necessary.

Test Standards

The following procedures apply to custom objects or customized Oracle objects.

General Guidelines

New or modified objects being migrated to Production will undergo extensive testing by the developer.

Testing the execution of each line of code and the results are as expected. The developer is responsible for ensuring each element of unit testing is executed.

Test Elements

The items listed below should be used as a checklist when performing unit testing.

Object executes to completion

The initial series of executions will ensure the object executes to completion under normal conditions.

When applicable, one execution will ensure object executes to completion with no input. Another execution will ensure object executes to completion with input.

Conditional Statements

A series of tests will be performed to ensure all conditional statements are executed with the expected results.

Tests will include the condition being met, as well as when the condition is not met. Tests will include negative testing to ensure all conditions are executed appropriately and correct action occurs.

Lookups

When applicable, a series of executions will ensure the object executes each lookup and each lookup completes under normal conditions after testing for the following conditions;

No Record Found   Test to ensure the results is as expected. Negative results will be displayed to alert the appropriate parties.

Record(s) Found	Test to ensure the results are as expected. Negative results will be displayed to alert the appropriate parties.
Too Many Records Found	Test to ensure the results are as expected. Negative results will be displayed to alert the appropriate parties.

Output Products

When applicable, a series of executions will ensure the object is producing the desired output.

Tables	Ensure each column is populated as required.
Workbooks	Ensure page and column headings are aligned and user friendly. Ensure each column is populated as required.
Execution Information	Ensure object displays information about the execution, including name of object, date of execution, number of records read, number of records updated, number of records written, and object completion status.
Parameters	Ensure object tests for required parameters
Functions	Ensure object returns information as required or null value(s) to indicate results unobtainable.
.	

Documentation

Upon completion of testing, ensure changes are incorporated in the documentation.

Functional Test Standards

The following procedures apply to custom objects or customized Oracle objects.

General Guidelines

New or modified modules will undergo functional testing by a Systems Accountant.

Functional testing by definition is the execution of effected module(s) and the results are as expected. The accountant is responsible for ensuring each effected module meets requirements and produces the desired results.

Test Elements

The items listed below should be used as a checklist when performing functional testing.

Module performs as required

The initial series of executions will ensure the module(s) execute with desired results under normal conditions.

ACKNOWLEDGEMENT OF POLICIES AND GUIDELINES

DELPHI has implemented an Oracle Enterprise Data Warehouse (EDW). The EDW User Policies and Guidelines document has been created to set the standards, policies and procedures for the use of this EDW. This will ensure the integrity of the data warehouse system and provide standardization of system documentation.

I, _____, have read the "EDW User Policies and Guidelines" document and understand all requirements set forth. I understand if the polices and guidelines contained within this document are not followed, reports will not be moved to the production system, large queries compromising the integrity of the EDW system will be terminated by the Delphi EDW staff, and/or termination of my EDW user access will occur.

Signed: _____

Printed Name: _____

Agency/Department: _____

Address: _____

Telephone Number: _____